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मानक

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“पुराने को छोड़ नये के तरफ”

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“Step Out From the Old to the New”

IS 12246 (1988): Irons, Pyro-puncture with Copper Needles  
[MHD 17: Health Informatics]



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“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”



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## Indian Standard

(Reaffirmed 2006)

# SPECIFICATION FOR IRONS, PYRO-PUNCTURE WITH COPPER NEEDLES

**1. Scope** — This standard covers requirements for irons, pyro-puncture with copper needles for veterinary use.

**2. Dimensions** — Shall conform to Fig. 1.

**2.1** The tolerance on dimensions of working ends shall conform to 'fine' class of deviation and the tolerance for remaining dimensions shall conform to 'medium' class of deviation of IS : 2102 (Part 1)-1980 'General tolerances for dimensions and form and position: Part 1 General tolerances for linear and angular dimensions (second revision)'.

## 3. Materials

- |                          |                                                     |
|--------------------------|-----------------------------------------------------|
| a) Head, rod and spring  | : Carbon steel having 0.45 to 0.55% carbon          |
| b) Spring holder and pin | : Mild steel                                        |
| c) Ferrule and washer    | : Brass having minimum 60 % copper<br>(brass 60/40) |
| d) Insulator             | : Suitable timber                                   |
| e) Needle                | : Copper                                            |

## 4. Manufacture, Workmanship and Finish

**4.1** The edges shall be even, rounded and nowhere sharp. The spring holder shall provide a close fit to the spring. The ferrule shall be firmly fixed to the handle. The riveting and welding shall be sound. The spring shall be accurately and evenly hardened and tempered. The spring shall function satisfactorily. The pin shall fit into its corresponding part. The needle shall be pointed and shall fit into its corresponding part of the iron.

**4.2** The surface of the working ends shall be free from all defects like burrs, pits, cracks, nicks and waviness when examined under 10 X magnification. All surfaces shall be free from pores, crevices and grinding marks.

**4.2.1** The instrument shall be supplied free from residual scales, acid, grease and grinding and polishing materials. Compliance with these requirements shall be checked under 2 X magnification.

**5. Hardness** — The head, rod and spring shall be hardened and tempered to give a hardness of 450 to 550 HV.

**6. Requirements** — The steel parts shall be plated nickel over copper conforming to service grade number 2 of IS : 1068-1985 'Specification for electroplated coatings of nickel plus chromium and copper plus nickel plus chromium on iron and steel (second revision)'. The brass parts shall be nickel plated conforming to service grade number 2 of IS : 4828-1983 'Specification for electroplated coatings of copper, nickel and chromium on zinc alloys (first revision)'.

## 7. Tests

**7.1 Spring Test** — The distance between the free end of the spring and the nearest point on the head shall be measured. The spring shall be pressed to the head and released 12 times. On completion of the test, the measured distance shall not have altered.

**7.2 Load Test** — The load required to be applied to the free end of the spring to bring it in contact with the lower face of the head shall be 680 g.

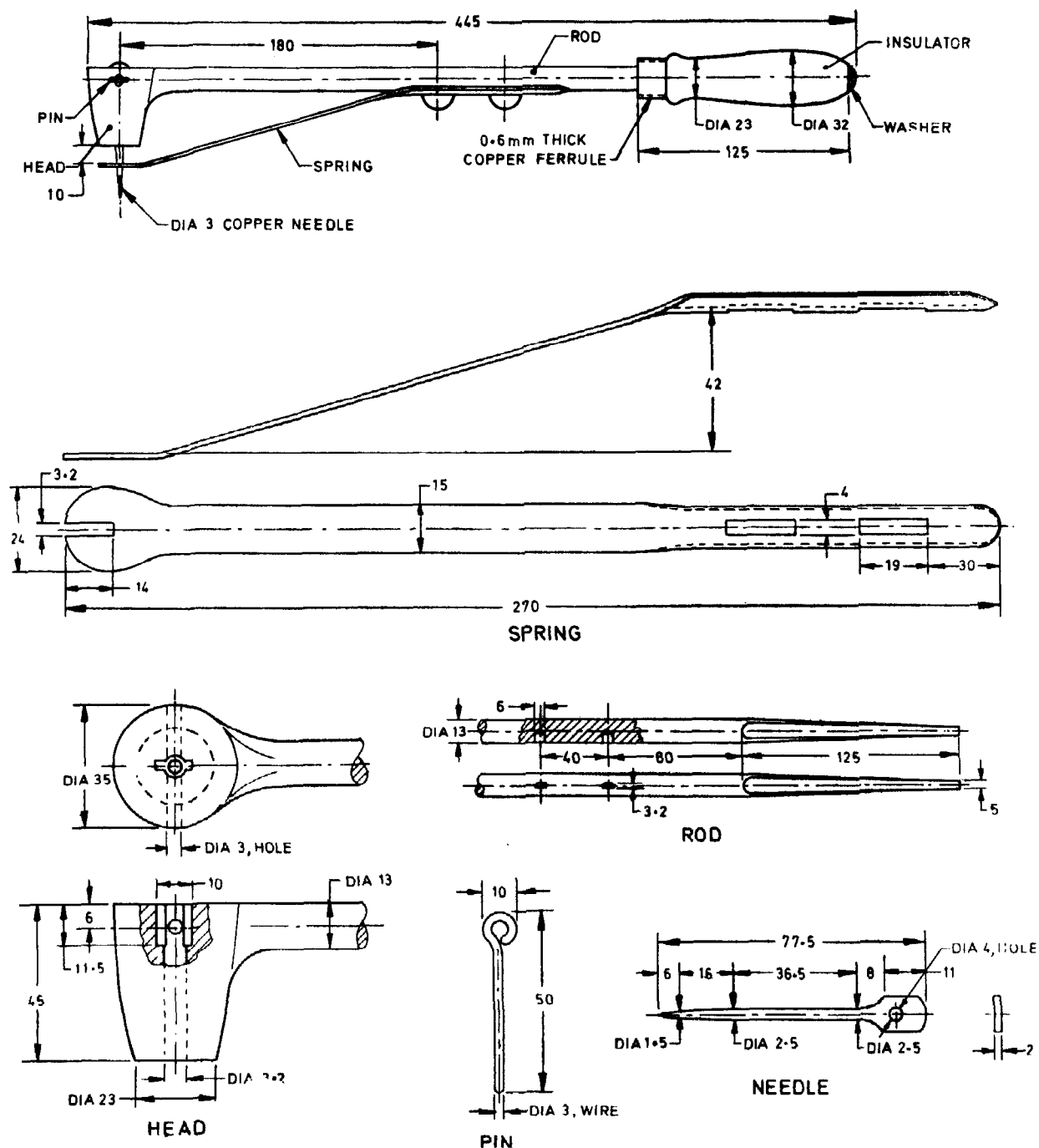
**7.3 Corrosion Test** — The instrument shall be cleaned with a suitable organic solvent such as carbon tetrachloride, in order to remove any trace of grease before carrying out the test.

**7.3.1** The instrument shall be boiled for 60 minutes in 5 percent aqueous solution of sodium carbonate. At the end of this period, the plating shall not show any sign of peeling off nor shall there be any rusting over the plated portion.

Adopted 29 January 1988

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All dimensions in millimetres.  
FIG. 1 IRON, PYROPUNCTURE WITH COPPER NEEDLE

7.3.2 The instrument shall be placed on a perforated platform on a desiccator above a solution of sodium chloride ( 20 g NaCl in 100 cc of water of specific gravity of 1.15 ). Air shall be blown into the solution so that a dense fog is produced in the desiccator without spray being blown directly against the instrument. There shall be no sign of corrosion of the plating after treating for 24 hours.

8. Surface Finish — The surface finish shall be mirror finish. The instrument should be adequately ground to remove all surface imperfections and polished to remove grinding marks, resulting in a mirror finish. The mirror finish should be effected by an appropriate procedure, such as polishing, brushing, electropolishing and mirror buffing.

**9. Sampling** — Unless otherwise agreed to between the purchaser and the supplier, the sampling procedure given in IS : 2500 ( Part 1 )-1973 'Sampling inspection tables: Part 1 Inspection by attributes and by count of defects ( *first revision* )' shall be followed.

**9.1 Lot** — All the irons of the same size, shape and belonging to the same batch of manufacture shall be grouped together to constitute a lot.

**9.2** For dimensions and requirements given in **2, 4 and 8**, a single sampling plan with inspection level IV and AQL 4 percent given in Tables 1 and 2 of IS : 2500 ( Part 1 )-1973 shall be followed.

**9.3** For requirements given in **6**, a single sampling plan with inspection level III and AQL 4 percent given in Tables 1 and 2 of IS : 2500 ( Part 1 )-1973 shall be followed.

**9.4** For the tests given in **5 and 7**, a single sampling plan with inspection level I and AQL 1 percent given in Tables 1 and 2 of IS : 2500 ( Part 1 )-1973 shall be followed.

**10. Marking** — Each iron shall be legibly and indelibly marked with the manufacturer's name, initials or recognized trade-mark.

**10.1 Standard Marking** — Details available with the Bureau of Indian Standards, New Delhi.

**11 Packing** — A set of 6 needles shall be wrapped in kraft paper. The empty spaces, if any, shall be filled with suitable cushioning material to prevent movement.

## EXPLANATORY NOTE

While preparing this standard, assistance has been derived from Doc No. IND/GS/MED/521 ( d ) 'Irons, pyro-puncture, with insulator, set of and irons, pyro-puncture, copper needles for', issued by the CQA ( GS ), Kanpur.